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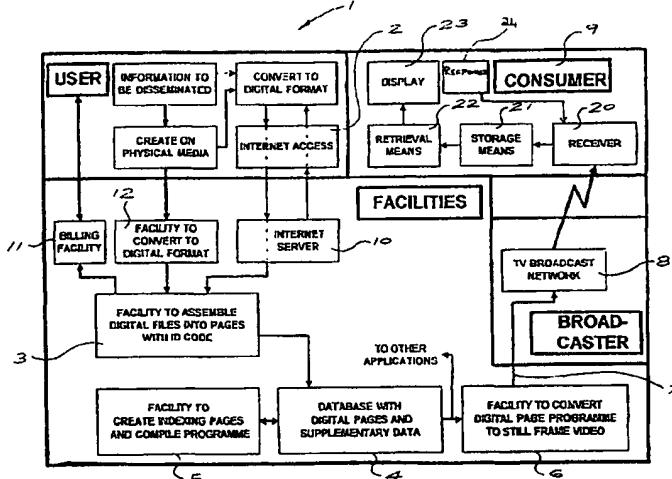
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(54) Title: METHOD AND APPARATUS FOR THE DISSEMINATION OF INFORMATION



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(57) Abstract: A system for the dissemination of information comprises a user access facility, a processing facility and a billing facility. The user access facility enables a user of the system to submit information for dissemination, while the processing facility converts the submitted information into a number of separate digital data pages. The system includes compilation means for compiling a selection of the digital data pages according to a predetermined selection criteria, and conversion means operable to create a transmittable video output signal containing a number of still video frames which are uninterpretable by a viewer when viewed at a standard broadcast frame rate. Each still video frame of the video output signal corresponds to one of the digital data pages in the compiled selection. The billing facility bills the user of the system as a function of the number of still video frames included in the video output signal.

METHOD AND APPARATUS FOR THE DISSEMINATION OF INFORMATION**FIELD OF THE INVENTION**

This invention relates to a method of, and to a system for, the dissemination of information and, more particularly, but not exclusively, to a method of, and to a system for, the dissemination of promotional or advertising material and the like.

BACKGROUND TO THE INVENTION

The dissemination of promotional and advertising material by means of video signals is well known.

Generally, an advertiser wishing to disseminate advertising material by means of a video signal will purchase advertising space from a broadcaster or an operator of a television network. In such instances, advertising space is generally purchased in units of time, so that an advertiser may, for example, purchase sufficient advertising space to flight a 30 second video program containing his advertising or promotional material.

The price of the advertising space is dependent on the viewership which is reached by the broadcast, and is dependent on factors such as time of day, number of subscribers or viewers, and so forth.

This method of dissemination of information is disadvantageous as the advertising space is expensive and unaffordable by many advertisers. Further, the cost of producing video programs for advertising is expensive, and the use of video for the dissemination of static promotional or advertising material is unnecessarily inefficient and costly.

Video signals are commonly employed for the presentation of full motion visual information and consist of a continuous and regular sequence of video frames, each representing a target image.

It is known that, if the sequence of frames of the video signal are related in that small changes occur between successive frames, a frame rate of between 25 and 30 frames per second is sufficient to provide a viewer with an adequate representation of motion of the target image. For this reason, most video standards in the world today are based on a frame rate in this range, irrespective of the nature of the target image. It is expected that the advent of high definition television will necessitate standards with higher frame rates than these. A frame rate exceeding this range is inefficient as it does not significantly enhance the visual experience of a moving target image, whilst a frame rate less than this range presents the viewer with a jerky image.

At the same time, the human visual system requires a finite time to process or interpret an image. The processing time is a function of the amount of detail contained in the image. Thus, a standard sequence of related video frames representing a moving target image will be easily interpreted by a viewer as each frame contains little new detail to be interpreted by the viewer relative to the preceding frame. If, however, the sequence of frames are unrelated, the human cognitive system will find it impossible to interpret all of the information in each frame, since the viewing time for each individual frame will be too short. Where the sequence of frames are related in that a multiplicity of consecutive frames

carry the same information, the effective viewing time of the information is increased, thereby allowing the human visual system to interpret the information.

This implies that, without adequate viewing time for each frame of a sequence of unrelated video frames, the information content therein will be meaningless to a viewer. Further, increasing the viewing time of each frame to overcome this difficulty renders the presentation of continuous motion unsatisfactory.

It is known to broadcast a sequence of video frames at a standard frame rate where the frames of the sequence represent information which is uninterpretable by a viewer when viewed at the standard frame rate. Such transmission is sometimes referred to as "info burst". The info burst broadcast signal is typically recorded by a viewer and the recorded frames are then replayed at a slower frame rate which is sufficiently slow to allow interpretation of the recorded frames by the viewer. This system is disadvantageous in that the information contained in a particular frame is only intelligible by means of a linear sequential scan through the recorded frames at the slower frame rate.

British Patent No. GB2.129.649 discloses a system for dissemination of information in which individual frames of an info burst video broadcast signal are indexed. The individual frames of the broadcast signal are supplied to an index generator at a standard broadcast frame rate. The index generator inserts indexing information on each frame, in the form of page numbers, other alphanumeric characters, colours, borders and the like, which is incremented or decremented in response to a control signal.

A shortcoming of this system is a lack of synchronisation between frame changes of the broadcast signal and the control signal which increments or decrements the indexing information. Further, this type of indexing is unpractical for use in applications where multi-level indexing is required.

Frames of analogue video signals are encoded by a video camera, transmitted and reconstructed at a receiver as two interlaced fields, known in the art as the "A" and "B" fields. Each of these underlying fields contains half of the image information represented in the video frame. If only one field of the frame is displayed, the resultant image, although imperfect, is still interpretable by a viewer thereof.

Frames of digital video signals are usually reconstructed from a bit stream conforming to a digital video compression standard such as the well-known MPEG-2 standard. This standard achieves a high compression rate by not transmitting visually redundant information. The constituent parts of the MPEG-2 digital/video compression standard are referred to as "I-, P- and B- frames"

In this specification, the term "frame" is taken to mean any portion of an analogue or a digital video signal which may be used by receiving equipment to reconstruct an underlying image, or part thereof, for purposes of display on a video monitor, and which includes the underlying constituent parts of analogue or video signals as described above.

The term "digital data page" is taken to mean a collection of digital data which is displayable as an image on a video monitor.

OBJECT OF THE INVENTION

It is an object of this invention to provide a method of, and a system for the dissemination of information which will, at least partially, alleviate the above-mentioned difficulties and disadvantages.

SUMMARY OF THE INVENTION

In accordance with this invention there is provided a system for the dissemination of information, comprising:

a user access facility arranged to enable a user of the system to submit information to be disseminated;

a processing facility for converting the submitted information into a number of separate digital data pages;

compilation means for compiling a selection of the digital data pages according to predetermined selection criteria;

conversion means operable to create a transmittable video output signal containing a number of still video frames which are uninterpretable by a viewer when viewed at a standard broadcast frame rate, each still video frame of the video output signal corresponding to one of the digital data pages in the compiled selection; and

a billing facility arranged to bill the user of the system as a function of the number of still video frames included in the video output signal.

Further features of the invention provide for the user access facility to enable a plurality of different users to submit information to be disseminated by the system, for the video output signal to contain still video frames corresponding to the information submitted by more than one of the plurality of different users, and for the user access facility to include authoring means operable by the user to format the information prior to submission thereof.

Still further features of the invention provide for the system to include a transmitter for transmitting the still frame video output signal, for the system to further include:

at least one receiver remote from the transmitter for receiving the transmitted still frame video output signal;

storage means for storing the sequence of still video frames in the received video output signal;
a retrieval facility for retrieving any of the stored received still video frames; and a display means for displaying the retrieved still video frames for a predetermined or desired length of time or in a desired sequence.

Yet further features of the invention provide for the processing facility to include:
digitization means for digitizing the information submitted by the user into a number of digital data files; and
a database for storing the number of digital data files as separate digital data pages corresponding to information submitted for dissemination by the user.□
There is also provided for each digital data page in the the database to contain a unique identification code associated therewith, for each digital data page in the the database to also contain supplementary data associated therewith and for the supplementary data to relate to the subject matter of the corresponding submitted information, the identity of the user of the system, and the date on which the corresponding information is to be disseminated.

There is further provided for the compilation means to compile indexing data as a function of the supplementary data associated with the digital data pages contained in the compiled selection, for the indexing data to be converted into a number of corresponding indexing data pages, for the indexing data pages to be included as corresponding indexing still video frames of the video output signal, and for the retrieval facility to be operable to retrieve any of the stored received still video frames according to the indexing data.

There is still further provided for the digital data pages in the compiled selection to be indexed into generic groups in accordance with the information represented therein, and for the digital data pages in the compiled selection to be indexed individually in accordance with a code or title relating to each page.

There is yet further provided for an audio channel to be transmitted together with the video output signal, for the audio channel to be received and stored together with the received video output signal, for the stored audio channel to be activated whilst displaying the stored received video output signal, and for a plurality of different audio channels to be transmitted together with the video output signal.

There is also provided for the transmitter to be a television broadcast transmitter, for the storage means to be a video cassette recorder (VCR), alternatively a personal computer (PC) or digital video disk (DVD), and for the information represented in the sequence of video frames to be any one or more of advertising, promotional, educational, financial or news material.

Preferably, the system includes a response facility associated with the receiver, the response facility being activatable by the user of the system to enter selection data corresponding to a displayed still video frame.

There is also provided for the retrieval facility to search the stored, received still video frames for any one or more specified images or text, and for the searching to be user-driven, alternatively for the searching to be adaptively-driven according to a profile of the user's preferences.

The invention extends to a method for the dissemination of information, comprising the steps of;

providing a user access facility for the submission of information to be disseminated;

submitting information for dissemination;

converting the submitted information into a number of separate digital data pages; compiling a selection of the digital data pages according to predetermined selection criteria;

creating a transmittable video output signal containing a number of still video frames which are uninterpretable by a viewer when viewed at a standard

broadcast frame rate, each still video frame of the video output signal corresponding to one of the digital data pages in the compiled selection; and billing the user of the system as a function of the number of still video frames included in the video output signal.

There is also provided for compiling the video output signal to contain a number of still video frames corresponding to information submitted by a plurality of different users, and for formatting the submitted information prior to conversion thereof into the number of still video frames.

There is further provided for the method to include the further steps of:
transmitting the still frame video output signal;
receiving the transmitted still frame video output signal at a receiver;
storing the sequence of still video frames contained in the received video output signal;
retrieving any of the stored received still video frames; and
displaying the retrieved still video frames for a predetermined or desired length of time or in a desired sequence.

There is still further provided for:
digitizing the information submitted by the user into a number of digital data files;
and
storing the number of digital data files in a database as separate digital data pages corresponding to the information submitted for dissemination by the user.

There is yet further provided for storing in the database a unique identification code associated with each digital data file stored therein, for also storing supplementary data associated with each digital data file stored in the database, and for the supplementary data to relate to the subject matter of the corresponding submitted information, the identity of the user of the system, and the date on which the corresponding information is to be disseminated.

There is also provided for the method to include the further steps of: compiling indexing data as a function of the supplementary data associated with the digital data pages contained in the video output signal; converting the indexing data into a number of corresponding indexing data pages; including the indexing data pages as corresponding indexing still video frames of the video output signal; and operating the retrieval facility to retrieve any of the stored received still video frames according to the indexing data.

There is further provided for indexing the digital data pages in the compiled selection into generic groups in accordance with the information represented therein, and for also indexing the digital data pages in the compiled selection individually in accordance with a code or title relating to each page.

There is still further provided for transmitting an audio channel together with the video output signal, for receiving the audio channel and storing the received audio channel together with the received video output signal, for activating the stored audio channel whilst displaying the stored received video output signal, and for transmitting a plurality of different audio channels together with the video output signal.

There is also provided for the method to include the further step of entering selection data corresponding to a displayed still video frame.

There is also provided for the method to include the still further step of searching the stored, received still video frames for any one or more specified images or text, and for the searching to be user driven, alternatively for the searching to be adaptively-driven according to a profile of the user's preferences.

BRIEF DESCRIPTION OF THE DRAWINGS

A preferred embodiment of the invention is described below, by way of example only, and with reference to the accompanying drawings, in which:

Figure 1 is a block diagram of a system for the dissemination of information according to the invention.

DETAILED DESCRIPTION WITH REFERENCE TO THE DRAWINGS

Referring to Figure 1, a system for the dissemination of information is indicated generally by reference numeral (1).

The system (1) includes a user access facility (2) in the form of the Internet or any other communications network which enables a user of the system to submit information for dissemination to consumers thereof, a processing facility (3) for converting the submitted information into a number of still separate digital data pages, a compilation means (5) operable to compile a selection of the digital data pages according to predetermined selection criteria, conversion means (6) operable to create a transmittable video output (7) suitable for broadcasting by a transmitter (8) of a television broadcaster. The video output signal (7) consists of a number of still video frames each of which corresponds to one of the digital data pages of the compiled selection. The system includes a billing facility (11) arranged to bill the user of the system as a function of the number of still video frames included in the video output signal (7). It is an essential aspect of the invention that the video output signal (7) produced by the system (1) consists of a sequence of still video frames, the information content of each frame being unintelligible when viewed at a standard frame rate by a consumer of the information.

The processing facility (3) includes digitization means (12) for digitizing the information submitted by the user into a number of digital data files, and a database (4) for storing all the digital data files as separate digital data pages corresponding to information submitted for dissemination by the user.

A consumer (9) of information disseminated by the system (1) has a receiver (20) remote from the transmitter (8) for receiving the still frame video output signal (7), storage means (21) such as a video recorder for storing the sequence of still video frames in the received video output signal, a retrieval facility (22) for selectively retrieving any of the stored received still video frames, and a display (23) for displaying the retrieved still video frames for a predetermined or desired length of time or in a particular sequence.

The system (1) includes a response facility (24) associated with the receiver (20) which is activatable by the consumer (9) to enter selection data corresponding to a displayed still video frame. The displayed still video frame may, for example, indicate a menu of choices available to the consumer, to which the consumer is able to respond by activating appropriate selection buttons on the response facility. The consumer's selection is transmitted back to the user via a return path in the form of a communication or telecommunication channel.

In use, a user wishing to disseminate information by means of the system (1) submits such information by means of the user access facility (2) to an Internet server (10). The submitted information can comprise any combination of images and text. It will be appreciated by those skilled in the art that information submitted to the system through the Internet is, of necessity, already in digital format. Where it is desired to submit information which is not already digitised, such as photographs or printed text, such information is digitised by the digitization means (12) as necessary. The user access facility (2) also provides authoring means in the form of proprietary imaging or word processing software operable by the user to format the submitted information as may be required.

Alternatively, the user may author the information to be disseminated by using standard commercially available imaging or word processing software which may, for example, include any one or more standard software programs such as:

- Microsoft Word or WordPerfect for purposes of word processing; and
- Photo Shop, L View, Microsoft Photo Editor or Paintshop Pro for purposes of image processing.

The submitted information is converted by the processing facility (3) into a number of digital data files which are stored in the database (4) which, in this embodiment, is implemented by means of standard database software such as Microsoft Access, Informix, or DB/Textworks. Each digital data file in the database (4) includes an associated unique identification code and supplementary data. The supplementary data relates, *inter alia*, to the subject matter of the submitted information corresponding to the particular digital data file, the identity of the user who submitted the information, and the date on which the underlying information is to be disseminated to consumers thereof. The unique identification code is used for efficient processing and tracking of the digital data file in the system (1), while the supplementary data allows searching and selection operations to be performed in the records of the database (4).

The compilation means (5) then compiles a selection of digital data pages from the database (4) for dissemination. The digital data pages included in the compiled selection are selected according to specified criteria such as, for example, broadcast date, client identity, and subject matter. As part of this compilation process, indexing data is prepared which corresponds to the selected digital data pages in the compiled selection. The indexing data is converted to a number of corresponding indexing data pages which relate specifically to, and are

included as part of, the compiled selection. The indexing data pages are prepared by utilising proprietary software.

The indexing data indexes the frames into different generic groups. Furthermore, the indexing data also contains the unique identification code relating to each still video frame. The indexing data thus indicates to the viewer which generic group a particular frame belongs to, as well as the identity of a particular frame within the group, thereby providing multi-level indexing.

Optionally, the sequence of still video frames can include one or more video frames which are devoted to a listing of the identities, such as text descriptions, of the different generic groups, and the addresses of the groups in the sequence of video frames.

The indexing data may be visual, aural or embedded. Visual indexing data includes:

- (i) relative position indicators such as % slide bars, time stamps, counters, pointers, and an hourglass;
- (ii) colour coding, such as blocks or bands of colour adjacent one another, or specific colours for the background, the text or the outline of the frames;
- (iii) Alphanumeric characters related to information represented on the video frame; or
- (iv) symbols, logos or icons

Aural indexing data includes voice and tones, while embedded indexing data encompasses any form of information which cannot be visually or aurally interpreted such as, for example, teletext or MPEG-II.

The compiled selection is converted, by the conversion means (6) into the video output signal (7) consisting of a sequence of still frames, each still frame representing the information contained in a corresponding digital data page of the compiled selection, inclusive of the indexing data pages. The conversion of the digital data pages and indexing data pages into the still frame video output signal is achieved by sequentially converting each data page to a still video frame by using a video-editing suite, or non-linear composing apparatus which is well known in the art. It will be appreciated by those skilled in the art that the video output signal (7) thus produced, comprises a sequence of still video frames, each frame containing information which will be unintelligible to a viewer when the video output signal (7) is viewed at a standard broadcast frame rate. The format of the video output signal (7) may be that of any analogue or digital broadcasting standard, such as PAL or NTSC analogue broadcasting standards or the MPEG-2 digital broadcasting standard. Further, the video output signal may be made available for broadcasting on any medium, such as videotape or optical disk.

The consumer (9) of the disseminated information may utilise the retrieval facility (22) to retrieve any desired still frame which has been received and stored on the storage means (21) on the basis of indexing data which is disseminated as part of the video output signal.

The user access facility (2) enables a number of different users to submit information to be disseminated by the system (1). In such a case, the video output signal (7) will contain still video frames corresponding to the information submitted by more than one of the number of different users.

The billing facility (11) enables a user of the system (1) to be billed for dissemination of information submitted by him, in accordance with the number of still video frames which are transmitted as part of a particular broadcast of the still frame video output signal (7). It will be further appreciated by those skilled in the art that the system (1) thus enables a user to be billed for his usage of the system

on a per still frame basis, as opposed to prior art method for the dissemination of information by video broadcast, in which billing of a user is a function of units of time consumed in a video broadcast. The invention thus introduces a new paradigm for billing advertisers who wish to disseminate promotional and advertising material by means of video broadcasting.

An audio channel is broadcast by the transmitter (8) together with the video output signal (12). The audio channel is received by the receiver (20) and stored together with the received sequence of video frames on the storage means (21). The stored audio channel is activated and rendered intelligent to a listener when the stored received sequence of video frames is displayed at a standard frame rate.

Numerous modifications are possible to this embodiment without departing from the scope of the invention. In particular, a digital clock may be superimposed on the video output signal. It is envisaged that the clock would be initiated at the start of the main indexing frame of the broadcast program and display running hours, minutes and seconds of the broadcast program. Indexing data for each still frame of the broadcast program will then comprise corresponding value of the digital clock.

Further, metadata in the form of a number of searchable metatags can be included as part of each digital data file stored in the database (4). Such metadata can be supplied by a user of the system when submitting information through the user access facility for dissemination. Alternatively, the metatags may be automatically generated when submitted information is converted by the processing facility (3) into the digital data files. The metatags corresponding to selected digital data pages may be included as part of the indexing data pages corresponding to the compiled selection. The metadata may be employed to enable the consumer to retrieve the disseminated information by means of

metatag-based search methods, instead of by utilising the indexing data which is disseminated as part of the video output signal.

Still further, the frames of the video output signal (7) may be stored in a suitable frame store apparatus instead of on transport media such a videotape or optical disc. In this instance, the broadcast program will include an associated control program which determines a play-out sequence of the desired frames from each of the frames on the frame store apparatus. A specific broadcast program will then only consist of desired frames selected from all the frames stored in the frame store apparatus.

Yet further the storage means (21) may be a hard disk based personal video recorder of a type which is currently commercially available such as, for example, TiVo or Replay personal video recorders.

In order to facilitate the retrieval of video frames according to the indexing data as described above, the system (1) may, optionally include a video search engine which enables a sequence of video frames and associated audio to be searched for any user-specified image, audio text, audio or any combination thereof. This approach is known in the art as image/text recognition of user-specified images. This search engine may be directly user-driven, or may be driven by self-learning software which builds up a profile of information preferred by the user of the system and pre-filters the stored sequence of video frames for contents to be presented to the user.

Additionally, a plurality of audio channels can be broadcast together with the sequence of video frames. Alternatively, the audio channel may consist of a sound clip associated with each of the still video frames in the sequence. In this embodiment the sound clip is activated and played when the corresponding still video frames is retrieved and displayed by the consumer.

It is also possible for two or more successive still video frames in the video output signal to represent identical information. Finally, the video output signal can be transmitted "in clear" or be encrypted prior to transmission where the broadcast is not "free-to-air". In the latter instance the video output signal is decrypted by the receiver (20) before being stored in the storage means (3).

The invention therefore provides an effective system which enables a user thereof to administer his marketing and promotional activities.

CLAIMS

1. A system for the dissemination of information, comprising:
a user access facility arranged to enable a user of the system to submit information to be disseminated;
a processing facility for converting the submitted information into a number of separate digital data pages;
compilation means for compiling a selection of the digital data pages according to predetermined selection criteria;
conversion means operable to create a transmittable video output signal containing a number of still video frames which are uninterpretable by a viewer when viewed at a standard broadcast frame rate, each still video frame of the video output signal corresponding to one of the digital data pages in the compiled selection; and
a billing facility arranged to bill the user of the system as a function of the number of still video frames included in the video output signal.
2. A system as claimed in claim 1 in which the user access facility enables a plurality of different users to submit information to be disseminated by the system
3. A system as claimed in claim 2 in which the video output signal contains still video frames corresponding to the information submitted by more than one of the plurality of different users.
4. A system as claimed in any one of the preceding claims which includes authoring means operable by the user to format the information prior to submission thereof.
5. A system as claimed in any one of the preceding claims which includes a transmitter for transmitting the still frame video output signal

6. A system as claimed in claim 5 which includes:
 - at least one receiver remote from the transmitter for receiving the transmitted still frame video output signal;
 - storage means for storing the sequence of still video frames in the received video output signal;
 - a retrieval facility for retrieving any of the stored received still video frames; and
 - a display means for displaying the retrieved still video frames for a predetermined or desired length of time or in a desired sequence.
7. A system as claimed in any one of the preceding claims in which the processing facility includes:
 - digitization means for digitizing the information submitted by the user into a number of digital data files; and
 - a database for storing the number of digital data files as separate digital data pages corresponding to information submitted for dissemination by the user.
8. A system as claimed in claim 7 in which each digital data page in the database contains a unique identification code associated therewith
9. A system as claimed in claim 8 in which each digital data page in the database also contains supplementary data associated therewith.
10. A system as claimed in claim 9 in which the supplementary data relates to the subject matter of the corresponding submitted information, the identity of the user of the system, and the date on which the corresponding information is to be disseminated.

11. A system as claimed in either one of claims 9 or 10 in which the compilation means compiles indexing data as a function of the supplementary data associated with the digital data pages contained in the compiled selection.
12. A system as claimed in claim 11 in which the indexing data is converted into a number of corresponding indexing data pages.
13. A system as claimed in claim 12 in which the indexing data pages are included as corresponding indexing still video frames of the video output signal
14. A system as claimed in any one of claims 11 to 13 in which the retrieval facility is operable to retrieve any of the stored received still video frames according to the indexing data.
15. A system as claimed in any one of claims 11 to 14 in which the digital data pages in the compiled selection are indexed into generic groups in accordance with the information represented therein.
16. A system as claimed in any one of claims 11 to 14 in which the digital data pages in the compiled selection are indexed individually in accordance with a code or title relating to each page.
17. A system as claimed in claim 6 in which an audio channel is transmitted together with the video output signal
18. A system as claimed in claim 17 in which the audio channel is received and stored together with the received video output signal.

19. A system as claimed in claim 18 in which the stored audio channel is activated whilst displaying the stored received video output signal.
20. A system as claimed in claim 6 in which a plurality of different audio channels is transmitted together with the video output signal.
21. A system as claimed in claim 5 in which the transmitter is a television broadcast transmitter.
22. A system as claimed in claim 6 in which the storage means is any one of a video cassette recorder (VCR), a personal computer (PC) or a digital video disk (DVD)
23. A system as claimed in any one of the preceding claims in which the information represented in the sequence of video frames is any one or more of advertising, promotional, educational, financial or news material.
24. A system as claimed in claim 6 which includes a response facility associated with the receiver, the response facility being activatable by the user of the system to enter selection data corresponding to a displayed still video frame.
25. A system as claimed in claim 6 in which the retrieval facility searches the stored received still video frames for any one or more of specified images or text.
26. A system as claimed in claim 25 in which the searching is user-driven.
27. A system as claimed in claim 25 in which the searching is adaptively-driven according to a profile of a user's preferences.

28. A method for the dissemination of information, comprising the steps of:
providing a user access facility for the submission of information to be disseminated;
submitting information for dissemination;
converting the submitted information into a number of separate digital data pages;
compiling a selection of the digital data pages according to predetermined selection criteria;
creating a transmittable video output signal containing a number of still video frames which are uninterpretable by a viewer when viewed at a standard broadcast frame rate, each still video frame of the video output signal corresponding to one of the digital data pages in the compiled selection; and
billing the user of the system as a function of the number of still video frames included in the video output signal.
29. A method as claimed in claim 28 in which the video output signal is compiled to contain a number of still video frames corresponding to information submitted by a plurality of different users
30. A method as claimed in either one of claims 28 or 29 in which the submitted information is formatted prior to conversion thereof into the number of still video frames.
31. A method as claimed in any one of claims 28 to 30 which includes the further steps of:
transmitting the still frame video output signal;
receiving the transmitted still frame video output signal at a receiver;
storing the sequence of still video frames contained in the received video output signal;
retrieving any of the stored received still video frames; and

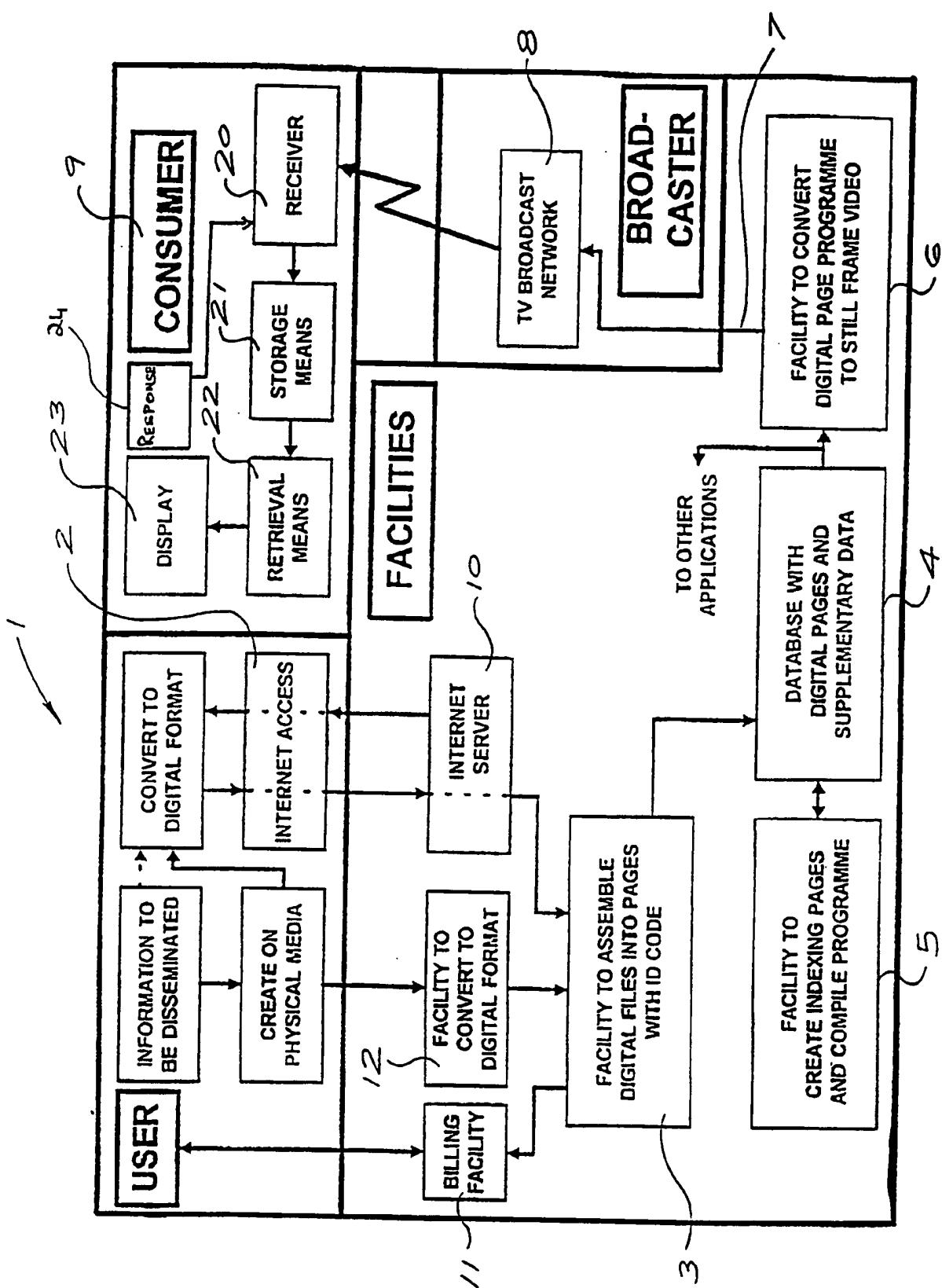
displaying the retrieved still video frames for a predetermined or desired length of time or in a desired sequence.

32. A method as claimed in any one of claims 28 to 31 in which the information submitted by the user is digitised into a number of digital data files; and
the number of digital data files is stored in a database as separate digital data pages corresponding to the information submitted for dissemination by the user.
33. A method as claimed in claim 31 which includes the step of storing in the database a unique identification code associated with each digital data file stored therein.
34. A method as claimed in claim 33 which includes the further step of storing supplementary data associated with each digital data file stored in the database.
35. A method as claimed in claim 34 in which the supplementary data relates to the subject matter of the corresponding submitted information, the identity of the user of the system, and the date on which the corresponding information is to be disseminated.
36. A method as claimed in either one of claims 34 or 35 which includes the further steps of:
compiling indexing data as a function of the supplementary data associated with the digital data pages contained in the video output signal;
converting the indexing data into a number of corresponding indexing data pages;

including the indexing data pages as corresponding indexing still video frames of the video output signal; and
operating the retrieval facility to retrieve any of the stored received still video frames according to the indexing data.

37. A method as claimed in claim 36 in which the digital data pages in the compiled selection are indexed into generic groups in accordance with the information represented therein.
38. A method as claimed in claim 37 in which the digital data pages in the compiled selection are also indexed individually in accordance with a code or title relating to each page.
39. A method as claimed in claim 31 which includes the further step of transmitting an audio channel together with the video output signal.
40. A method as claimed in claim 39 in which the audio channel is received and stored together with the received video output signal.
41. A method as claimed in claim 40 in which the stored audio channel is activated whilst displaying the stored received video output signal at the standard frame rate.
42. A method as claimed in any one of claims 39 to 41 in which a plurality of different audio channels is transmitted together with the video output signal.
43. A method as claimed in claim 31 which includes the further step of entering selection data corresponding to a displayed still video frame.

44. A method as claimed in claim 31 in which any of the stored received still video frames are retrieved by searching the stored received still video frames for any one or more of specified images or test.
45. A method as claimed in claim 44 in which the searching is user-driven.
46. A method as claimed in claim 44 in which the searching is adaptively-driven according to a profile of a user's preferences.
47. A system for the dissemination of information, substantially as herein described with reference to and as illustrated in the accompanying drawings.
48. A method for the dissemination of information, substantially as herein described with reference to the accompanying drawings.



INTERNATIONAL SEARCH REPORT

national Application No

PCT/GB 00/04057

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04N1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 99 22515 A (NIEZEN IRIC JACOBUS ; TALJAARD CHARL JOHAN (ZA); CHENGETA CUTHBERT) 6 May 1999 (1999-05-06)	1, 5-9, 17-26, 28, 30, 33, 34, 39-45, 47, 48
A	the whole document	11-16, 36-38
Y	US 5 559 548 A (DAVIS BRUCE ET AL) 24 September 1996 (1996-09-24)	1, 5-9, 17-26, 28, 30, 33, 34, 39-45, 47, 48
	column 10, line 10 - line 58; figure 7A ---	
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
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X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
1 February 2001	07/02/2001
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Hanratty, C

INTERNATIONAL SEARCH REPORT

national Application No

PCT/GB 00/04057

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 96 13124 A (INTEL CORP) 2 May 1996 (1996-05-02) abstract; claim 1 ----	2,3,29
A	US 5 420 923 A (BEYERS II ROBERT J ET AL) 30 May 1995 (1995-05-30) abstract; claims 11-23 ----	10,35
A	US 5 708 960 A (KAMISAKA TADAYUKI ET AL) 13 January 1998 (1998-01-13) column 5, line 35 -column 6, line 13 -----	7-10, 32-35

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 00/04057

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 9922515	A	06-05-1999	AU	9727298 A		17-05-1999
US 5559548	A	24-09-1996	US	5635978 A		03-06-1997
			AU	691347 B		14-05-1998
			AU	3681895 A		09-04-1996
			BR	9509033 A		28-10-1997
			CA	2200348 A		28-03-1996
			EP	0782806 A		09-07-1997
			JP	10506248 T		16-06-1998
			WO	9609721 A		28-03-1996
WO 9613124	A	02-05-1996	AU	4364296 A		15-05-1996
			EP	0788714 A		13-08-1997
			US	6064438 A		16-05-2000
US 5420923	A	30-05-1995	US	5381477 A		10-01-1995
			AU	6549194 A		08-11-1994
			WO	9424826 A		27-10-1994
			AT	185226 T		15-10-1999
			AU	674213 B		12-12-1996
			AU	6238394 A		14-09-1994
			CA	2155535 A		01-09-1994
			DE	69420948 D		04-11-1999
			EP	0685141 A		06-12-1995
			JP	8509850 T		15-10-1996
			MX	9401217 A		31-08-1994
			WO	9419909 A		01-09-1994
			AU	6238294 A		14-09-1994
			CA	2155537 A		01-09-1994
			JP	8509849 T		15-10-1996
			MX	9401216 A		31-08-1994
			WO	9419881 A		01-09-1994
			US	5724525 A		03-03-1998
US 5708960	A	13-01-1998	JP	7231309 A		29-08-1995
			GB	2286751 A, B		23-08-1995